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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/618,741	07/18/2000	Thomas M. Hartnett	07206-118001	8640
51503 7590 11/06/2007 RAYTHEON COMPANY c/o DALY, CROWLEY, MOFFORD & DURKEE, LLP 354A TURNPIKE STREET SUITE 301A CANTON, MA 02021-2714			EXAMINER HOFFMANN, JOHN M	
			ART UNIT 1791	PAPER NUMBER
			MAIL DATE 11/06/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<div style="border: 1px solid black; width: 150px; height: 20px; margin: 0 auto;"></div> Office Action Summary	Application No. 09/618,741	Applicant(s) HARTNETT ET AL.	
	Examiner John Hoffmann	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/17/2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 32-93 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 32-93 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/17/2007 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 89 and 93 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 93: there is no antecedent basis for "the chamber top" at line 5. Line 5 is simply not understood. There is no antecedent basis for "the entire conversion"

Claim 89 requires heating a mixture at a constant temperature. The term 'heating' usually means to add heat. And adding heat usually increases the temperature. But if the mixture has a constant temperature, the term "heating" typically

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does not apply. It is unclear whether it is actually being heated, or if the temperature is actually constant.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 58-83 and 93 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

See the prior Office action.

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

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not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 32-86, 88-93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maguire 4686070 in view of Serpek 1030929 and optionally in view of Feeco.com's webpage on Rotary Kilns and Perry "Chemical Engineers' Handbook".

See how the reference were applied in prior Office actions.

Perry can also be applied: As per the page 4-20, second column, lines 8-9 the reactor design is "a most important factor" for the process economy. The first two paragraphs, of page 4-3 indicate that the chemical engineer's job is to choose and design the reactor, and this includes experimental investigation. Page 4-21 gives

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various examples of known reactors. Thus Perry shows that once given a reaction, it is routine application of routine chemical engineering practices to determine/design an economical reactor. Examiner sees nothing in the present record which suggests the invention was anything but the routine application of reactor design principles. Even if such took enormous amount of effort, time and money - it seems only obvious application of known techniques.

Claim 87 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maguire in view of Serpek and optionally in view of Feeco.com's webpage on Rotary Kilns and Perry "Chemical Engineers' Handbook" as applied to claim 86 above, and further in view of Abstract of JP403023269A or Dodds 5925584.

See how these references were applied in the previous rejections.

Claims 32—86 and 88-93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Prior Art Admission (hereinafter 'APAA') in the paragraph spanning pages 1-2 of the specification, alone or in view of Serpek 1030929 and optionally in view of Feeco.com's webpage on Rotary Kilns and Perry "Chemical Engineers' Handbook".

See how the reference were applied in prior Office actions and above.

Response to Arguments

Applicant's arguments filed 10/17/2007 have been fully considered but they are not persuasive.

Applicant is correct about claim 80 regarding the 35 USC 112 – 2nd paragraph rejection. It should have been claim 89 (not 80). Examiner apologizes for the error.

It is argued that the prior art two-step process "teaches away" from a one step process. Examiner does not see any teaching away – nor does applicant point to any specific passage. Examiner's review of the references indicates they do not teach away from Applicant's claimed invention, or from the prior art combination because the disclosure of this reference does not criticize, discredit, or otherwise discourage the invention or the combination. *In re Fulton*, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1145-46 (Fed. Cir. 2004).

As best as Examiner can guess, applicant's conclusion of "teaching away" is based on 1) silence as to a one-step process and/or 2) that since a two-step process is mutually exclusive of a one step process, that such is a teaching away. Examiner does not find this reasoning to be reasonable. It is along the line of interpreting a brochure for a Hawaiian vacation as being a "teaching away" from a Las Vegas vacation - just because it doesn't mention Las Vegas or because you can only go on one vacation. Silence is NOT a teaching.

It is argued that Examiner never explained why one would use a continuous process, when the the prior art teaches that a two-step process should be used. Examiner never explained this at least because Examiner was not aware that the prior

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art says the two step process 'should' be used. At present, Examiner cannot find where the prior art says that the two-step process "should" be used, nor does applicant point out where such language is contained. Thus Examiner cannot make any conclusive explanation at present. To put it another way: Examiner has made a prima facie showing of obviousness. Applicant is attempting to show the references teach away. When applicant adequately rebuts the Office's prima facie showing by showing that the references truly teach away – (such as by showing where the disclosures of the references criticize, discredit or other wise discourage the invention or the combination), examiner will then either agree with applicant, or explain why applicant is incorrect in the assertion that the references teach away.

Regarding the rejection under the first paragraph of 35 USC 112, Applicant quotes some unattributed paragraph. However, the relevance of the paragraph is not pointed out. Even if it is from the present application, it refers to a completely different process – for example the passage refers to the process as one where the temperature ramps up, claim 58 requires that the temperature remains constant. The arguments also refer to the temperature of 1825 C. Claim 58 does not specify any temperature. Ramping up and constant temperature are mutually exclusive things. Examiner cannot see how one would support the other. Examiner requests that applicant make a detailed explanation of one can support the other.

Regarding claim 60: Examiner is not 100% certain as to applicant's position. Examiner sees nothing about the temperature of the gas in the passage.

From MPEP 2111.01:

(Ordinary, simple English words whose meaning is clear and unquestionable, absent any

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indication that their use in a particular context changes their meaning, are construed to mean exactly what they say. Thus, "heating the resulting batter-coated dough to a temperature in the range of about 400oF to 850oF" required heating the dough, rather than the air inside an oven, to the specified temperature.).

Although the passage indicates that the reaction mixture is at the claimed temperature, the claim is directed to the temperature of the gas. And even if it can be shown that there is support for the gas at the claimed temperature, there is no support that it is passing over the aluminum oxide and the carbon particles. The unspecified passage refers to heating a "reaction mixture", but the claim requires alumina particles and carbon particles. Although similar they are NOT the same thing. For example, Applicant's unspecified paragraph refers to "reaction mixture 70, now ALON powder". To put it another way: there is NO indication as to what is in 70 when the "constant temperature" is reached. The prior art reasonably suggests that these particles do NOT - exist by the time the constant temperature is met. It is noted this is NOT to be taken that Office is trying to prove or show anything – rather it is merely an explanation is why Examiner fails to see anything which supports claim 60. The burden is NOT on the Office to show the claims are not supported, rather after making the prima facie rejection, the burden is on applicant to show where the support is in the specification or otherwise demonstrate that one of ordinary skill would realize that applicant had invented the invention as stipulated in 35 USC 112.

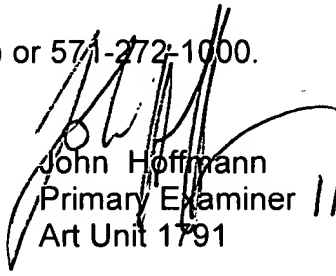
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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


John Hoffmann
Primary Examiner
Art Unit 1791

11-5-07

jmh